

REMARKS

Reconsideration is respectfully requested in view of the amendments and remarks herein.

Obviousness-Type Double Patenting

Claim 1 stands provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 21 of co-pending USSN 10/501,491, published as US 2005-0131133. Applicants note that USSN 10/501,491 has been abandoned in favor of CIP USSN 11/343,591, filed January 30, 2006. A terminal disclaimer against USSN 11/343,591 is filed herewith, so withdrawal of this rejection is respectfully requested.

Claim 14 stands provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of co-pending USSN 10/501,491, published as US 2005-0131133. Applicants note that USSN 10/501,491 has been abandoned in favor of CIP USSN 11/343,591, filed January 30, 2006. A terminal disclaimer against USSN 11/343,591 is filed herewith, so withdrawal of this rejection is respectfully requested.

Claim 14 stands provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of co-pending USSN 10/501,493, published as US 2005-0192398. The cited patent application has been abandoned, so this rejection is moot.

Obviousness

Applicants have amended the claims in order to focus them on two embodiments of the invention.

Claim 1 is directed to a process for preparing a low color, polyvinyl butyral sheet. The claims specify the use of a polyvinyl butyral bleaching compound.

Claim 24 is directed to a process for preparing a low color, polyvinyl butyral sheet comprising the steps wherein the surfactant which also performs the function of a bleaching compound. Claim 25 specifies that this surfactant is dialkyl sulfosuccinate, such as dioctyl sulfosuccinate (DOSS) which is claimed in claim 26. Claims 25 and 26 are similar to original claims 6 and 7.

Claim 14 is directed to a plasticized polyvinyl butyral sheet composition consisting essentially of: polyvinylbutyral having a hydroxyl (OH) number of from about 15 to about 25; a plasticizer or plasticizer mixture present in an amount of from about 30 pph to about 50 pph, based on the dry weight of the polyvinyl butyral resin; a surfactant; and optionally including either (i) a polyvinyl butyral bleaching compound, or (ii) an antioxidant and an ultraviolet (UV) light stabilizer, or (iii) both (i) and (ii), wherein the sheet has a yellowness index (YID) color of less than 12, and wherein the surfactant is the type that performs the function of a bleaching compound or the polyvinyl butyral bleaching compound is present.

Claim 23 is directed to a laminate article comprising at least one layer of the polyvinyl butyral composition of Claim 14.

Claim 55 is directed to a polyvinyl butyral sheet obtained by the process of any of Claims 1, 24, 25 and 37.

(A) Claims 1-5, 8, 14-19 and 23 stand rejected under 35 USC 103(a) as obvious over Gutweiler (US 5,573,842) in view of Dauvergne (FR 2,401,941 Abstract), and further in view of Shohi (EP 1036775).

Claim 1 is amended to focus on a process involving the step (IV) of mixing a polyvinyl butyral bleaching compound with the polyvinyl butyral resin composition. This step is no longer recited as an optional step.

The specification provides the following examples of how bleaching compounds of amended claim 1 bleach, stating that the bleaching compound is a compound that: (a) reacts directly with color-forming compounds present in a polyvinyl butyral resin composition; (b) is capable of yielding a compound that reacts with color-forming compounds present in a polyvinyl butyral resin composition; (c) decomposes in situ to yield decomposition products that react with color-forming compounds present in a polyvinyl butyral resin composition; or (d) inhibits the formation of color-forming compounds present in a polyvinyl butyral resin composition. Examples include organic bisulfites, inorganic bisulfites, and dialkylsulfosuccinates (e.g., DOSS).

The claimed bleaching compounds are quite different from the optical brighteners of Gutweiler described at column 2, line 42-column 3, line 9. Those compounds are described as organic substances which contain systems of conjugated double bonds or multiple bonds in which hetero atoms may also be include, and have fluorescence properties. On exposure those compounds absorb invisible ultraviolet light and emit visible blue light. The bluish fluorescent emission of an optical brightener is stated to ensure that the blue component absorbed by the substrate and therefore absent in the reflected light of the yellowish substrate is supplemented, so that a radiant white material results.

Dauvergne seems to be cited for its teaching that dodecylbenzene sulphonate can be used as an emulsifier. This document does not seem to teach or suggest the steps of amended claim 1.

Shohi is cited with respect to teaching the wash step of the present invention. It does not appear to be cited as teaching or suggesting use of a bleaching compound in the steps of the claimed invention.

Given that Gutweiler, Dauvergne and Shohi do not teach one critical aspect of the claimed invention, then applicants simply submit that they cannot be combined to teach the invention of amended claim 1. (In doing so, applicants do not admit that these patent documents are otherwise appropriately cited or combined.) For this reason alone, the

rejection based upon these documents should be withdrawn with respect to claim 1 and the claims dependent thereon.

Claim 14 is directed to a plasticized polyvinyl butyral sheet composition consisting essentially of: polyvinylbutyral having a hydroxyl (OH) number of from about 15 to about 25; a plasticizer or plasticizer mixture present in an amount of from about 30 pph to about 50 pph, based on the dry weight of the polyvinyl butyral resin; a surfactant; and optionally including either (i) a polyvinyl butyral bleaching compound, or (ii) an antioxidant and an ultraviolet (UV) light stabilizer, or (iii) both (i) and (ii), wherein the sheet has a yellowness index (YID) color of less than 12, and wherein the surfactant is the type that performs the function of a bleaching compound or the polyvinyl butyral bleaching compound is present. Since none of the cited documents teach or suggest such a sheet containing such a surfactant/bleaching compound applicants respectfully request withdrawal of this rejection with respect to this claim and the claims dependent thereon.

(B) Claims 6-7, 9-13 and 20-21 stand rejected under 35 USC 103(a) as obvious over Gutweiler (US 5,573,842) in view of Dauvergne (FR 2,401,941 Abstract), and further in view of Shohi (EP 1036775) as applied with respect to Claims 1-5, 8, 14-19 and 23, and further in view of Degeilh (US 4,696,971).

Claim 24 is presented in order to focus on a process for preparing a low color, polyvinyl butyral sheet comprising the steps wherein the surfactant which also performs the function of a bleaching compound. Claim 25 specifies that this surfactant is dialkyl sulfosuccinate, such as dioctyl sulfosuccinate (DOSS) which is claimed in claim 26. Claims 25 and 26 are similar to original claims 6 and 7.

These surfactants used for bleaching compounds are quite different from the optical brighteners of Gutweiler described at column 2, line 42-column 3, line 9. Those compounds are described as organic substances which contain systems of conjugated double bonds or multiple bonds in which hetero atoms may also be include, and have fluorescence properties. On exposure those compounds absorb invisible ultraviolet light and emit visible blue light. The bluish fluorescent emission of an optical brightener is stated to ensure that the blue component absorbed by the substrate and therefore absent in the reflected light of the yellowish substrate is supplemented, so that a radiant white material results.

Dauvergne seems to be cited for its teaching that dodecylbenzene sulphonate can be used as an emulsifier. This document does not seem to teach or suggest the steps and bleaching compounds of claims 24, 25 or 26.

Shohi is cited with respect to teaching the wash step of the present invention. It does not appear to teach or suggest the combination of steps of the claimed invention, nor the advantages of using a surfactant which is a bleaching compound as claimed.

Degeilh is cited as teaching use of sodium dioctyl sulfosuccinate as a surfactant in preparing polyvinyl butyral sheets. Degeilh teaches that one problem with prior process is the

use of an after treatment in an aqueous medium at pH between 9 and 11 (see, e.g., column 1, line 66-column 2, line 12), and thus specifies that the “neutralization process” is discontinued as soon as a pH of approximately 5 is reached. This is contrary to step (II) of the claimed invention which involves “stabilizing the mixture obtained in step (I) by (a) raising the pH of the mixture to at least pH 10, (b) isolating the resin by draining the liquid, and (c) washing the resin with neutral pH water.” Therefore, Degeilh leads away from the claimed invention and cannot be combined with the other documents as in the rejection. Consequently, applicants submit that for this reason alone the rejection is improper and should be withdrawn.

(C) Claim 22 stands rejected under 35 USC 103(a) as obvious over Gutweiler (US 5,573,842) in view of Dauvergne (FR 2,401,941 Abstract), in view of Shohi (EP 1036775) as applied to claims 14 and 20 above, further in view of an online product brochure from Great Lakes Chemical Corporation. Applicants submit that this rejection should be withdrawn for the reasons presented above and therefore do not address the issues concerning use of an antioxidant at this time.

Amendments to the Claims

The specification and claims are corrected to spell “dioctyl sulfosuccinate” properly.

The claims are amended as follows.

Claims 3-8, 13, 17 and 19 are cancelled.

Acronyms are replaced with the terms from the specification.

The claims are amended so that terms have proper antecedent basis.

Claim 1 is amended to focus on the embodiment wherein a polyvinyl butyral bleaching compound is used.

In view of the amendment to claim 1, claim 2 is amended to focus on use of the antioxidant and the UV light stabilizer in conjunction with the polyvinyl butyral bleaching compound.

In claim, 9 “sodium dialkyl sulfosuccinate” is changed to “sulfosuccinate” as supported at page 6, line 21, etc. Claims 25 and 57 find the same support.

Claim 13 is replaced with new claim 55, which is dependent on only 4 claims.

Claim 14 is amended so that it focuses on the embodiment wherein the surfactant is the type that performs the function of a bleaching compound or the polyvinyl butyral bleaching compound is present.

Claim 24 is presented in order to focus on the embodiment of original claim 1 wherein the surfactant which also performs the function of a bleaching compound. Claim 26 specifies that this surfactant is sodium dialkyl sulfosuccinate, such as sodium dioctyl sulfosuccinate (DOSS) which is claimed in claim 27. Claims 26 and 27 are similar to original claims 6 and 7.

Claims 28 -34 are supported at page 7, line 36-page 8, line 8.

Claim 35 specifies that the process includes the mixing the antioxidant and the UV light stabilizer with the polyvinyl butyral resin composition.

Claims 36-39 are supported at page 8, line 23-page 9, line 11.

Claim 40 is supported in the paragraph bridging pages 6-7.

Claims 41-46 are supported in the paragraph bridging pages 5-6.

Claims 47-48 are supported at page 7, lines 3-10.

Claims 49-52 are supported at page 5, line 30 and page 11, lines 19-22.

Claim 53 is supported in claim 1 and at page 8, line 23 – page 9, line 11.

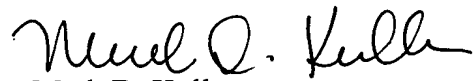
Claims 54-55 are supported at page 9, lines 28-34 and the examples (see, page 13, line

43).

Entry and consideration are respectfully requested.

In view of the foregoing, allowance of the above-referenced application is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Mark D. Kuller". The signature is fluid and cursive, with the first name "Mark" and last name "Kuller" being clearly distinguishable.

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